High Throughput Method for Functionally Classifying Proteins Identified Using a Genomics Approach

Abstract

The present invention provides a method for functionally classifying a protein that is capable of unfolding due to a thermal change. The method comprises screening one or more of a multiplicity of different molecules for their ability to shift the thermal unfolding curve of the protein, wherein a shift in the thermal unfolding curve indicates that the molecule binds to the protein or affects the stability in a measurable way; generating an activity spectrum for the protein wherein the activity spectrum reflects a set of molecules, from the multiplicity of molecules, that shift the thermal unfolding curve, of the protein and therefore are ligands that bind to the protein, comparing the activity spectrum for the protein to one or more functional reference spectrum lists; and classifying the protein according to the set of molecules in the multiplicity of different molecules that shift the thermal unfolding curve of the protein.